UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,714	06/12/2001	Ross Halgren	45433/DBP/C664	5525

23363 7590 02/23/2004

CHRISTIE, PARKER & HALE, LLP
350 WEST COLORADO BOULEVARD
SUITE 500
PASADENA, CA 91105

EXAMINER	
LI, SHI K	

ART UNIT	PAPER NUMBER
2633	7

DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/880,714	HALGREN ET AL.	
	Examiner	Art Unit	
	Shi K. Li	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 June 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. FIG. 2 and FIG. 5 are objected to under 37 CFR 1.84(o) because there are no descriptive legends for the boxes. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Communication Network with 2R and 3R Regeneration and Add/Drop Function.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 8 recites the limitation "the switching unit" in line 2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 4, 9-10, 14 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al. (U.S. Patent 6,335,992 B1) in view of Marmur (U.S. Patent 6,466,886 B1).

Regarding claims 1, 17 and 19, Bala et al. discloses in FIG. 1B an optical node for a WDM communication network. FIG. 1B comprises a first network interface unit 20 for demultiplexing an incoming WDM optical signal, a second network interface unit 40 for multiplexing channels into an outgoing WDM signal, a secondary interface unit 30 for dropping optical signal locally (see col. 5, lines 12-13) and a crossconnect 10. Bala et al. teaches in FIG. 5A a configuration for the crossconnect using electronic switch fabric. The difference between Bala et al. and the claimed invention is that Bala et al. does not teach that regeneration unit (receiver 140 and transmitter 150) utilizes at least 2R regeneration. Marmur teaches a 3R regeneration unit (see col. 1, line 54). One of ordinary skill in the art would have been combine the teaching of Marmur with the optical node of Bala et al. because a 3R regeneration corrects timing in additional to power level and shape, and, therefore, provides high quality signal at the output interface unit. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use 3R regeneration, as taught by Marmur, in the optical node of Bala et al. because a 3R regeneration corrects timing in additional to power level and shape, and, therefore, provides high quality signal at the output interface unit.

Regarding claim 4, Bala et al. teaches in FIG. 5A an electrical switching unit.

Regarding claim 9, Marmur teaches the use of 3R regeneration.

Regarding claim 10, Marmur includes in FIG. 2 a programmable gate array 31. Therefore, Marmur teaches a programmable clock data recovery circuit.

Regarding claim 14, it is obvious that the switching unit can be incorporated in a circuit pack with either the first network interface unit or the second network interface unit.

Regarding claim 18, Bala et al. teaches in col. 4, lines 37-39 to incorporate the optical node in a network.

8. Claims 2-3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al. and Marmur as applied to claims 1 above, and further in view of Sahasrabuddhe et al. (U.S. Patent Application Pub. 2002/0159114 A1).

Bala et al. and Marmur have been discussed above in regard to claims 1, 4, 9-10, 14 and 17-19. The difference between Bala et al. and Marmur and the claimed invention is that Bala et al. and Marmur do not teach an add-channel. Sahasrabuddhe et al. teaches in FIG. 3 to include an add-channel for adding local traffic to the network. One of ordinary skill in the art would have been motivated to combine the teaching of Sahasrabuddhe et al. with the modified optical node of Bala et al. and Marmur because network traffic are commonly bi-directional, e.g., Internet browsing and interactive transaction. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to include an add-channel in the modified optical node of Bala et al. and Marmur, as taught by Sahasrabuddhe et al., because network traffic are commonly bi-directional.

Regarding claim 3, Marmur suggests the use of 3R regeneration.

9. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al. and Marmur as applied to claims 1 above, and further in view of Levine et al. (U.S. Patent 6,668,106 B1).

Bala et al. and Marmur have been discussed above in regard to claims 1, 4, 9-10, 14 and 17-19. The difference between Bala et al. and Marmur and the claimed invention is that Bala et al. and Marmur do not teach a circuit card. Levine et al. teaches in FIG. 10 to arrange interfaces in interface cards. One of ordinary skill in the art would have been motivated to combine the teaching of Levine et al. with the modified optical node of Bala et al. and Marmur because arranging interface in circuit cards allows users to configure system according to capacity demand. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange the interfaces in circuit cards, as taught by Levine et al., in the modified optical node of Bala et al. and Marmur because arranging interface in circuit cards allows users to configure system according to capacity demand.

10. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al. and Marmur as applied to claims 1 above, and further in view of Grann (U.S. Patent 6,396,978 B1).

Bala et al. and Marmur have been discussed above in regard to claims 1, 4, 9-10, 14 and 17-19. The difference between Bala et al. and Marmur and the claimed invention is that Bala et al. and Marmur do not teach a device for use both as a multiplexer and demultiplexer. Grann teaches in FIG. 1 a passive optical device that can be used as a multiplexer or a demultiplexer. The device can be applied for coarse WDM (see col. 2, lines 16-17). One of ordinary skill in the art would have been motivated to combine the teaching of Grann with the modified optical node

of Bala et al. and Marmur because the multiplexer/demultiplexer of Grann is compact and cost effective and can reduce noise (for example, see col. 2, lines 38-45). Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the multiplexer/demultiplexer of Grann in the modified optical node of Bala et al. and Marmur because the multiplexer/demultiplexer of Grann is compact and cost effective and can reduce noise.

11. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al. and Marmur as applied to claims 1 above, and further in view of Zadikian et al. (U.S. Patent 6,631,134 B1).

Bala et al. and Marmur have been discussed above in regard to claims 1, 4, 9-10, 14 and 17-19. The difference between Bala et al. and Marmur and the claimed invention is that Bala et al. and Marmur do not teach redundant switching unit. Zadikian et al. teaches in FIG. 3 redundant architecture to increase system reliability for failure protection. One of ordinary skill in the art would have been motivated to combine the teaching of Zadikian et al. with the modified optical node of Bala et al. and Marmur because redundant architecture increases system reliability and protects against failure. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to include redundant switching unit, as taught by Zadikian et al., in the modified optical node of Bala et al. and Marmur because redundant architecture increases system reliability and protects against failure.

12. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bala et al. and Marmur as applied to claims 1 above, and further in view of Gersbach et al. (U.S. Patent 5,371,766).

Bala et al. and Marmur have been discussed above in regard to claims 1, 4, 9-10, 14 and 17-19. The difference between Bala et al. and Marmur and the claimed invention is that Bala et al. and Marmur do not teach to implement the regeneration unit as a very large scale integration (VLSI) structure. Gersbach et al. teaches in col. 4, lines 31-38 that regeneration circuit is well suitable for VLSI implementation. One of ordinary skill in the art would have been motivated to combine the teaching of Gersbach et al. with the modified optical node of Bala et al. and Marmur because VLSI implementation reduces size and increases reliability. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the regeneration unit with VLSI structure, as taught by Gersbach et al., in the modified optical node of Bala et al. and Marmur because VLSI implementation reduces size and increases reliability.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 703 305-4341. The examiner can normally be reached on Monday-Friday (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703 305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

skl

JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600